

## Publications

1. S. Crivelli, O. Kreylos, B. Hamann, N. Max, and W. Bethel (2004). *ProteinShop: A Tool for Interactive Protein Manipulation*. Accepted for publication in: Journal of Computer-Aided Molecular Design and Modeling.
2. S. Crivelli and T. Head-Gordon (2004). *A New Load Balancing Strategy for the Solution of Dynamical Large Tree Search Problems Using a Hierarchical Approach*. Accepted for publication in: the IBM Journal of Research and Development.
3. E. Eskow, B. Bader, R. Byrd, S. Crivelli, T. Head-Gordon, V. Lamberti, and R. Schnabel (2004). *An Optimization Approach to the Problem of Protein Structure Determination*. Accepted for publication in Mathematical Programming.
4. O. Kreylos, N. Max, B. Hamann, S. Crivelli, and W. Bethel (2003). *Interactive Protein Manipulation*. Proceedings of IEEE Visualization 2003 ApplicationTrack.
5. S. Crivelli, B. Bader, R. Byrd, E. Eskow, V. Lamberti, R. Schnabel, and T. Head-Gordon (2002). *A Physical Approach to Protein Structure Prediction*. Biophysical Journal **82**, 36-49.
6. T. Head-Gordon, S. Crivelli, O. Kreylos, E. Eskow, H. Choi, R. Byrd, and R. Schnabel (2002). *A Physical Approach to Protein Structure Prediction*, in: J. Moult, K. Fidelis, A. Zemla, and T. Hubbard, eds., Proceedings of CASP5 – Fifth Meeting on the Critical Assessment of Techniques for Protein Structure Prediction, Pacific Grove, California, December 1-5, A76-A78.
7. O. Kreylos, N. Max, and S. Crivelli (2002). *ProtoShop: Interactive Design of Protein Structures*, in: J. Moult, K. Fidelis, A. Zemla, and T. Hubbard, eds., Proceedings of CASP5 – Fifth Meeting on the Critical Assessment of Techniques for Protein Structure Prediction, Pacific Grove, California, December 1-5, A213-A214.
8. S. Crivelli, T.M. Philip, R. Byrd, E. Eskow, R. Schnabel, R.C. Yu, T. Head-Gordon (2000). *A Global Optimization Strategy for Predicting Protein Tertiary Structure:  $\alpha$ -helical Proteins*. Computers & Chemistry **24**, 489-497.
9. A. Azmi, R.H. Byrd, E. Eskow, R. Schnabel, S. Crivelli, T.M. Phillips, T. Head-Gordon (2000). *Predicting Protein Tertiary Structure Using a Global Optimization Algorithm with Smoothing*. Optimization in Computational Chemistry and Molecular Biology: Local and Global Approaches, C.A. Floudas and P.M. Pardalos (eds.). Kluwer Academic Publishers, Netherlands, 1-18.
10. T. Head-Gordon, S. Crivelli, E. Eskow, B. Bader, V. Lamberti, R. Byrd, and R. Schnabel (2000). *Predicting Protein Tertiary Structure Using a Global Optimization Algorithm*, in: J. Moult, K. Fidelis, A. Zemla, and T. Hubbard, eds., Proceedings of CASP4 – Fourth Meeting on the Critical Assessment of Techniques for Protein Structure Prediction, Pacific Grove, California, December 3-7, A43-A44.
11. S. Crivelli, T. Head-Gordon, R.H. Byrd, E. Eskow, R. Schnabel (1999). *A Hierarchical Approach for Parallelization of a Global Optimization Method for Protein Structure Prediction*. Lecture Notes in Computer Science, Euro-Par '99, P. Amestoy, P. Berger, M. Dayde, I. Duff, V. Fraysse, L. Giraud, D. Ruiz (eds.), 578-585.
12. S. Crivelli & E.R. Jessup (1999). *The PMESC Programming Library for Distributed-Memory MIMD Computers*. Journal of Parallel and Distributed Computing **57**, 295-321.

13. S. Crivelli & E.R. Jessup (1996). *An Introduction to the PMESC Parallel Programming Paradigm and Library for Task Parallel Computation*. Wuhan University Journal of Natural Sciences **1**, No.3/4, 386-391.
14. S. Crivelli & E.R. Jessup (1996). *Task Parallelism: What a Tool Can Provide and What Should Be Left to the User*. Lecture Notes in Computer Science Series, Euro-Par'96. Springer-Verlag.
15. S. Crivelli & E.R. Jessup (1995). *The Cost of Eigenvalue Computation on Distributed-Memory MIMD Multiprocessors*, Parallel Computing **21**, 401-422.
16. S. Crivelli & E.R. Jessup (1995). *An Introduction to the PMESC Parallel Programming Paradigm and Library for Task Parallel Computation*. Proceedings of ICPA '95, The International Conference on Parallel Algorithms.
17. S. Crivelli & E.R. Jessup (1995). *The PMESC Parallel Programming Paradigm and Library*. Parallel Processing for Scientific Computing, ed. D. Bailey et al. SIAM.
18. S. Crivelli & E.R. Jessup (1993). *A Programming Paradigm for Distributed-Memory Computers*. Parallel Processing for Scientific Computing, R. Sincovec, D. Keyes, M. Leuze, L. Petzold, and D. Reed (eds.), SIAM.
19. S. Crivelli & E.R. Jessup (1993). *Optimal Eigenvalue Computation on a Mesh Multiprocessor*. Parallel Processing for Scientific Computing, R. Sincovec, D. Keyes, M. Leuze, L. Petzold, and D. Reed (eds.), SIAM.
20. S. Crivelli & E.R. Jessup (1991). *Toward an Efficient Parallel Implementation of the Bisection Method for Computing Eigenvalues*. Proceedings of the Sixth Distributed Memory Computing Conference, Q. Stout and M. Wolfe (eds.), IEEE Computer Society Press.

## **Presentations**

*A New Approach to Protein Structure Prediction*. Presented at the *Statistics and Genomics Seminars, School of Public Health*, University of California, Berkeley, Fall 2002.

*An Ab Initio Approach to Protein Structure Prediction*. Presented at the *Blanch-Prausnitz Group Seminars*, University of California, Berkeley, Fall 2001.

*The Protein Structure Prediction Problem*. Presented at the *Computer Science Departmental Colloquia*, Old Dominion University, Spring 2001.

*An Approach to the Protein Structure Prediction Problem*. Presented at the *Department of Computer Sciences Colloquia*, Purdue University, Spring 2001.

*A Global Optimization Approach to Protein Structure Prediction*. Presented at the *Computer Science and Engineering Seminar Series*, University of Notre Dame, Spring 2001.

*The Protein Folding Problem (Designing Life: Proteins I, Computers 0)*. Presented at *Distinguished Lecturer Series and Colloquia*, Computer Science Department, UC Davis, Spring 2001.

*A Physical Approach to Protein Structure Prediction.* Presented at *IBM Research Division*, Spring 2001.

*A Hierarchical Approach for Parallelization of a Global Optimization Method for Protein Structure Prediction.* Presented at *EuroPar'99, Toulouse, France, 1999.*

*Phases of the Global Optimization Method for Protein Structure Prediction.* Presented at *Supercomputing'98.*

*Task Parallelism: What a tool can provide and what should be left to the user.* Presented at *EuroPar'96, Lyon, France, August 1996.*

*The PMESC Library.* Presented at *Centre Europeen de Recherche et de Formation Avancee en Calcul Scientifique (CERFACS), Toulouse, France, August 1996.*

*The PMESC Parallel Programming Paradigm and Library.* Presented at *the Seventh SIAM Conference on Parallel Processing for Scientific Computing, San Francisco, California, 1995.*

*Implementing Dynamic Problems on Distributed-Memory Computers.* Presented at *Seminar Series organized by the Department of Mathematics, Rensselaer Polytechnic Institute, December 1994.*

*A Programming Paradigm for Distributed-Memory Computers.* Presented at *the Sixth SIAM Conference on Parallel Processing for Scientific Computing, Norfolk, Virginia, March 1993.*

*Optimal Eigenvalue Computation on a Mesh Multiprocessor.* Presented at *the Sixth SIAM Conference on Parallel Processing for Scientific Computing, Norfolk, Virginia, March 1993.*